PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Docket No: Q94708
Isao SUZUKI, et al.	
Appln. No.: 10/578,408	Group Art Unit: 1795
Confirmation No.: 1650	Examiner: Adam A. ARCIERO
Filed: May 5, 2006	

For: BATTERY HAVING COVER MEMBER IN BATTERY CASE

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

Table of Contents

I. REAL PARTY IN INTEREST

The real party in interest is GS YUASA CORPORATION, the assignee of the present application. The assignment was recorded on May 5, 2006, at Reel 017896, Frame 0568.

II. RELATED APPEALS AND INTERFERENCES

Upon information and belief, there are no other prior or pending appeals, interferences or judicial proceedings known to Appellants' Representative or the Assignee that may be related to, be directly affected by, or have a bearing on the Board's decision in the Appeal.

III. STATUS OF CLAIMS

Claims 12-18 are pending in the application and stand rejected. **Rejected claims 12-18 are the subject of this Appeal**. Claims 1-11 and 19-28 are canceled.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the Final Rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to power generating element in a battery case made of a flexible sheet such an aluminum laminated sheet. (*See* specification, page 1, lines 6-8.). More specifically, it is an aspect of the claimed invention to prevent damage to the aluminum laminated sheets when a relatively heavy power generating element collides against the inner surface of the aluminum laminated sheets. (*See* specification, page 2, lines 27-34.). The aluminum laminated sheets are particularly prone to damage when contacting the non-coated portions of the power generating element typically made of aluminum or copper foil. (*See* specification, page 3, lines 1-10.). Consequently, the claimed invention utilizes cover members over the power generating element to prevent such damage.

Independent Claim 12

Claim 12 relates to a battery in which at least one cover member , a power generating element 1 comprising a positive electrode 3, a negative electrode 4 and a separator are accommodated in a battery case 2. (*See* specification, page 11, lines 8-25; FIG. 1.). The battery case 2 comprises a sheet comprising a laminate of an aluminum foil 21, 22 and a sealant layer. (*See* specification, page 12, lines 6-11; FIGS. 1 and 2.). The cover member 5 and the sealant layer are provided between the power generating element 1 and said aluminum foil 21, 22. (*See* specification, page 13, lines 6-12; FIGS. 1 and 2.). One of either the positive electrode or the negative electrode comprises a non-coated portion. (*See* specification, page 11, lines 8-20; FIGS. 1 and 2.). A portion of the non-coated portion is exposed on a surface of the power

generating element 1, and the exposed part of the non-coated portion is covered with said cover member 5. (*See* specification, page 12, lines 20-34; FIGS. 1 and 2.).

Independent Claim 17

Claim 17 relates to a battery in which two cover members 51, 52 and a power generating element 1 comprising a positive electrode 3, a negative electrode 4 and a separator are accommodated in a battery case 2. (*See* specification, page 11, lines 8-25; FIG. 1). The battery case 2 comprises a sheet comprising a laminate of an aluminum foil 21, 22 and a sealant layer. (*See* specification, page 12, lines 6-11; FIGS. 1 and 2.). Each one of said two cover members 51, 52 and the sealant layer are provided between the power generating element 1 and said aluminum foil 21, 22. (*See* specification, page 13, lines 6-12; FIGS. 1 and 2.). The positive electrode 3 and the negative electrode 4 comprise a positive electrode lead terminal and a negative electrode lead terminal respectively. (*See* specification, page 11, lines 21-28; FIGS. 1 and 2.). The two cover members 51, 52 face each other, holding said positive electrode lead terminal 3 and said negative electrode lead terminal 4 between them, to cover said power generating element. (*See* specification, page 12, lines 25-34; FIGS. 1 and 2.).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(1) Claims 12-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu (JP 2000-123801) in view of Terahara et al. (US 6,379,846).

(2) Claims 14-15 and 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu, Terahara as applied to claims 12-13, in further view of Hanafusa (US 2001/0051298).

(3) Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu and Terahara as applied to claims 12 and 13, in further view of Lake (US 5,326,652).

VII. ARGUMENT

I. Whether claims 12-13 are improperly rejected under Komatsu (JP 2000-123801) in view of Terahara et al. (US 6,379,846).

The first issue on appeal is whether claims 12-13 are improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu (JP 2000-123801) in view of Terahara et al. (US 6,379,846). Appellants respectfully request that the Board reverse this final rejection for the reasons set forth below.

Claim 12 recites, *inter alia*, `at least the part of said non-coated portion is exposed on a surface of said power generating element, and the exposed part of said non-coated portion is covered with said cover member.`

A. Examiner's Position

In the rejection, the Examiner contends that Komatsu discloses a battery equipped with a cover member and Terahara discloses a technique of providing a non-coated part on an electrode. Further, the Examiner contends it would have been obvious to applying the technique of Terahara to the battery of Komatsu. *See* Office Action, page 3, lines 4 to 21.

Specifically, the Examiner contends that Komatsu discloses the recited power generating element, cover members, sealant layer and aluminum foil, but concedes that Komatsu fails to disclose electrodes that include non-coated portions. To compensate for Komatsu's deficiencies, the Examiner relies on Terahara, alleging it discloses "a nonaqueous electrolyte battery which comprises an anode sheet and a cathode sheet." *See* Final Office Action, p. 3. More particularly, the Examiner contends Terahara discloses the end parts of an anode and cathode include a non-

coated part to which a nickel ribbon (for the anode) and an aluminum ribbon (for the cathode) are welded to so as to provide a lead body for the emergence of current. *Citing* Terahara, col. 10, lines 30-46.

As a reason to modify Komatsu, the Examiner posits it would have been obvious to use the non-coated portions so that terminal leads can be welded to provide for the emergence of current from the battery. Lastly, the Examiner contends the non-coated portion would be covered by the cover member because the cover member encompasses the ends of the power generating element of FIG. 1 in Komatsu.

B. Appellants' Response

Despite the Examiner's contention, Appellants respectfully submit that the Examiner has failed to establish *prima facie* obviousness of the feature "`at least the part of said non-coated portion is exposed on a surface of said power generating element, and the exposed part of said non-coated portion is covered with said cover member`," as recited in claim 12.

Essentially, the Examiner's contention that Komatsu shows where the lead terminal 7 is attached to an electrode (and the location of a non-coated portion) is unsupported. None of the figures of Komatsu show that the lead 7 is welded to an electrode. Rather, Komatsu merely shows the lead terminal 7 extending into the battery element. Thus, Komatsu does not show that any such welded portion exists or is exposed on a surface of the battery element 5 (alleged power generating element).

Specifically, in FIG. 1 of Komatsu, a terminal lead 7 is projected from the center of the cross-section of the power generating element, which means the projection is from somewhere inside of the power generating element. This portion of Terahara indicates that if a joint part between the terminal lead and the electrode, that is, the non-coated part exists, it must be present inside the power generating element, not external to the power generating element as alleged by the Examiner.

There is simply no support in Komatsu regarding a weld, or any location of a weld. As such, even if one of ordinary skill in the art would somehow rely on Terahara to utilize a non-coated portion, there is simply no support that such a non-coated portion would be external to the power generating element. In other words, even if the non-coated part of Terahara could be applied to the battery of Komatsu, the Examiner fails to articulate any reasoning with respect to the feature "at least one of said non-coated portion is exposed on a surface of said power generating element" as recited in claim 12.

Further, based on the evidence that the position of the non-coated part is not specified or disclosed Komatsu, and because the positional relation of the cover member and the non-coated part cannot be ascertained, the Examiner's position is based on mere conjecture.

Consequently, even if Terahara could be construed as teaching using non-coated portions at the location of a weld, since Komatsu fails to show any weld or where any such weld occurs, the applied combination fails to disclose or suggest "said non-coated portion is exposed on a surface of said power generating element," as recited in claim 12.

Thus, Appellants submit claim 12 is allowable for at least this reason. Additionally, claim 13 is allowable, at least by virtue of its dependency.

II. Whether claims 14-15 and 17-18 are improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu, Terahara as applied to claims 12-13, in further view of Hanafusa (US 2001/0051298).

Claims 14-15 and 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu, Terahara as applied to claims 12-13, in further view of Hanafusa (US 2001/0051298).

Because Hanafusa fails to compensate for the deficiencies of Komatsu and Terahara as applied to claim 12, claims 14 and 15 are allowable, at least by virtue of their dependency.

Appellants submit that the rejection of claims 17 and 18 is improper as follows.

A. Examiner's Position

In the rejection, the Examiner concedes that Komatsu and Terahara do not disclose two cover members that hold the lead terminals between each other and cover the power generating element. However, the Examiner reasons that the features of claim 17 would be obvious by applying the technique of Terahara to the battery of Komatsu and replacing the cover member of Komatsu by a cover member (resin 6, 8) of Hanafusa. *See* Office Action, page 4, line 18 to page 6, line 3.

B. Appellants' Response

Claim 17 generally requires:

(1) a battery case accommodating two cover members;

(2) the battery case comprises an aluminum foil and a sealant layer;

(3) the cover members and the sealant layer lie between the power generating element and the aluminum foil of the battery case.

Appellants respectfully submit that the applied combination fails to disclose "each one of said two cover members and said sealant layer are provided between said power generating element and said aluminum foil," as recited in claim 17.

Regarding Komatsu, as shown in FIG. 1, this reference only discloses a single member, case 6, covering the power generating element. The case 6 is made of a metal resin laminated film. *See* FIG. 1 reproduced below. As shown in FIG. 1, only a case 6 is used to cover the battery element 5. This case 6 includes two layers: (1) a metal; and (2) a resin laminate.

On the other hand, FIG. 36 of Hanafusa discloses a similar material for a case. The case includes a metallic foil 69 have a resin 6 on its inner surface and resin 10 on its outer surface. Consequently, if one of ordinary skill in the art were to modify Komatsu in view of Hanafusa,

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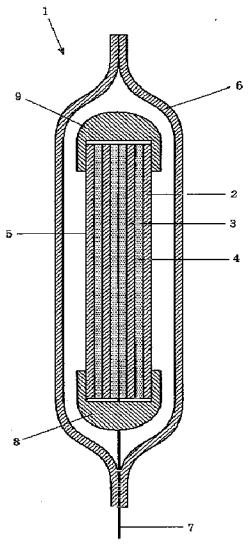
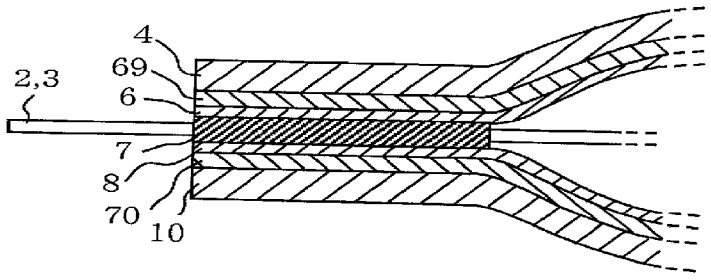


FIG.36



only an external resin need be added to make the cases similar.

In contrast, the Examiner relies on Hanafusa to somehow justify including the recited "two cover members" that are "provided between said power generating element and said aluminum foil," as recited in claim 17. In other words, Hanafusa's resins 6, 8, which correspond to the sealant layer in claim 17, covers the power generating element, but there is no suggestion of a cover member that is present in addition to the sealant layer which covers the power generating element. It is clear that a member corresponding to an additional cover member for Komatsu is not present in the battery of Hanafusa.

Further, in view of the flexible covers of the applied references, wrinkles and folds are easilyt generated in the battery case of the battery using the laminate sheet comprising the aluminum foil and the sealant layer, under a reduced pressure condition. However, when the cover members, which are present separately from the battery case, are provided in a manner that the cover members cover the power generating element, the peculiar effect that generates the wrinkles and the folds may be prevented (*see* page 6, line 29 to page 7, line 18 in the specification). Conversely, in the battery of Hanafusa, because the resin 6, 8 is a part of the battery case, the resin 6, 8 does not have any function of preventing the wrinkles and the folds from generating.

Thus, Appellants respectfully submit the Examiner has failed to establish *prima facie* obviousness of claim 17 for at least those reasons set forth above. Therefore claim 17 is allowable for at least those reason set forth above. Additionally, claim 18 is allowable, at least by virtue of its dependency.

Further, with respect to claims 14 and 15 (*see* Office Action, page 4, lines 8 to 17), the Examiner's reasoning fails to meet the provision of MPEP 2143.03, for the same reasons as in claim 17 and 18 above. Thus, Appellants submit claims 14 and 15 are allowable because the Examiner has failed to establish *prima facie* obviousness.

III. Whether claim 16 is improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu and Terahara as applied to claims 12 and 13, in further view of Lake (US 5,326,652).

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Komatsu and Terahara as applied to claims 12 and 13, in further view of Lake (US 5,326,652).

Appellants submit the Examiner has failed to establish *prima facie* obviousness of claim 16 as set forth below.

A. Examiner's Position

In the rejection the Examiner concedes that Komatsu and Terahara fail to disclose "wherein the superimposed portion of said two cover members faces the non-coated portion and faces a superimposed portion of the flexible sheet on the opposite side to the non-coated portion.

To compensate for these deficiencies, the Examiner contends that Lake teaches "a battery package 10 comprising a flexible base film 33 that covers and encloses the battery 12 and a flexible layer 24 of an inorganic material deposited on said base film 22 to enclose and seal the battery 12 (col. 3, lines 42-52 and Fig. 3)." *See* Final Office Action, p. 6.

B. Appellants' Position

Although the Examiner points out that "the superposed portion of said covers (base film) 22 faces the non-coated portion with one side", the Examiner does not clearly state which

position of Fig. 3 in Lake corresponds to the non- coated portion. As already described above with respect to Claim 12, even if the technique of providing the non-coated part in Terahara is applied to the battery of Komatsu, because it is not necessarily the case that the non-coated part is essentially exposed on the surface of the power generating element of Komatsu, the position of non-coated part is unclear.

Accordingly, even if the techniques of Terahara and Komatsu are further combined with the battery of Lake, because the position of the non-coated part is not disclosed and remains unclear, there is no support for the Examiner's contention that these references disclose "the superposed portion of said two cover members faces the non-coated portion." Thus, the Examiner has failed to establish *prima facie* obviousness for at least this reason.

As such, Appellants respectfully submit that even if Terahara, Komatsu and Lake are combined as suggested, the suggested combination fails to disclose all of the features of claim 16. Thus, Appellants submit claim 16 is allowable for at least this reason.

IV. Conclusion

The statutory fee (37 C.F.R. §41.37(a) and 1.17(c)) is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/David P. Emery/

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65565

CUSTOMER NUMBER

Date: October 14, 2010

CLAIMS APPENDIX

CLAIMS 12-18 ON APPEAL:

12. A battery in which at least one cover member and a power generating element comprising a positive electrode, a negative electrode and a separator are accommodated in a battery case, wherein:

said battery case comprises a sheet comprising a laminate of an aluminum foil and a sealant layer,

said cover member and said sealant layer are provided between said power generating element and said aluminum foil,

at least one of said positive electrode and negative electrode comprises a non-coated portion,

at least the part of said non-coated portion is exposed on a surface of said power generating element, and the exposed part of said non-coated portion is covered with said cover member.

13. The battery according to claim 12, wherein:

further comprising another cover member,

wherein said power generating element is covered with said two cover members,

said two cover members are cup-shaped, and

open sides of said two cover members face each other.

14. The battery according to claim 13, wherein:

each of said positive electrode and said negative electrode comprises a lead terminal, and

said lead terminal is held between said two cover members.

15. The battery according to claim 13, wherein:

said power generating element is entirely covered with said two cover members in said battery case.

16. The battery according to claim 13, wherein:

said two cover members are superimposed such that said two cover members face each other,

the superimposed portion of said two cover members faces the non-coated portion, and faces a superimposed portion of said battery case, on the opposite side to the non-coated portion.

17. A battery in which two cover members and a power generating element comprising a positive electrode, a negative electrode and a separator are accommodated in a battery case, wherein:

said battery case comprises a sheet comprising a laminate of an aluminum foil and a sealant layer,

each one of said two cover members and said sealant layer are provided between said power generating element and said aluminum foil,

said positive electrode and said negative electrode comprise a positive electrode lead terminal and a negative electrode lead terminal respectively, and

said two cover members face each other, holding said positive electrode lead terminal and said negative electrode lead terminal between them, to cover said power generating element.

18. The battery according to claim 17, wherein:

said two covers members are cup-shaped, and

open sides of said two cover members face each other.

EVIDENCE APPENDIX:

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

None.

RELATED PROCEEDINGS APPENDIX

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified above in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

None.

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Sir:

Submitted herewith please find an Appeal Brief. The statutory fee of $540.00 is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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